Applied Physics A

Solids and Surfaces

Board of Editors

S. Amelinckx, Mol · **M. H. Brodsky,** Yorktown Heights, NY
R. Gomer, Chicago, IL · **P. Hautojärvi,** Espoo
H. Ibach, Jülich · **H. K. V. Lotsch,** Heidelberg
D. Mills, Irvine, CA · **H. J. Queisser,** Stuttgart
R. Ulrich, Hamburg · **H. P. J. Wijn,** Eindhoven

Volume A 26 · 1981

Springer-Verlag Berlin Heidelberg New York

Copyright

It is a fundamental condition that submitted manuscripts have not been published and will not be simultaneously submitted or published elsewhere. By submitting a manuscript, the authors agree that the copyright for their article is tranferred to the publisher if and when the article is accepted for publication. The copyright covers the exclusive rights to reproduce and distribute the article, including reprints, photographic reproductions, microform or any other reproductions of similar nature, and translations.

Photographic reproduction, microform, or any other reproduction of text, figures, or tables from this journal is prohibited without permission obtained from the publisher.

Special regulations for the USA

The Article Fee Code on the first page of an article in this journal indicates the copyright owner's consent that in the USA copies may be made for personal or internal use, provided the stated fee for copying beyond that permitted by Section 107 or 108 of the United States Copyright Law is paid through the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA.

If a code does not appear copies of the article may be made without charge, provided permission is obtained from the publisher.

The copyright owner's consent does not extend to copying for general distribution, for promotion, for creating new works, or for resale. Specific written permission must be obtained from the publisher for such copying.

The use of general descriptive names, trade names, trade marks, etc. in this publication, even if the former are not specifically identified, is not to be taken as a sign that such names are exempt from the relevant protective laws and regulations and may accordingly be used freely by anyone.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors nor the editors nor the publisher can accept legal responsibility for errors or omissions that may have been made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Authors of this journal can benefit from library and photocopy fees collected by VG Wort if certain conditions are met. If an author lives in the Federal Republic of Germany or in West Berlin, it is recommended that he contact Verwertungsgesellschaft Wort, Abteilung Wissenschaft, Goethestrasse 49, D-8000 München 2, for detailed information.

Springer-Verlag Berlin · Heidelberg · New York
Printers: Brühlsche Universitätsdruckerei, Giessen
Printed in Germany © by Springer-Verlag Berlin · Heidelberg 1981

Applied Physics
© Springer-Verlag 1981

Contents

Invited Papers

Ewert, S.: Excitation of Molecules in Inelastic Electron Tunneling Spectroscopy 63
McPhedran, R.C., Milton, G.W.: Bounds and Exact Theories for the Transport Properties of Inhomogeneous Media . . 207
Milton, G.W., see McPhedran, R.C. 207
Sexton, B.A.: Identification of Adsorbed Species at Metal Surfaces by Electron Energy Loss Spectroscopy (EELS) . 1

Contributed Papers

Abdelmohsen, N., see Abou El Ela, A.H., et al. 171
Abou El Ela, A.H., Abdelmohsen, N., Labib, H.H.A.: Electrical Properties of $CuTlSe_2$ in the Liquid State 171
Abou El Ela, A.H., Sharaf, K.A., Labib, H.H.A.: Viscosity of Liquid Selenium and Selenium-Sulphur Mixtures . . . 203
Albanese, G., Deriu, A., Lucchini, E., Slokar, G.: Mössbauer Investigation of In and Sc Substituted Barium Hexaferrite 45
Bahgat, A.A., see Fayek, M.K., et al. 175
Bangert, H., see Semerad, E., et al. 247
Bava, G.P., Orta, R.: Optical Frequency Mixing in Planar Waveguides: Influence of Crystal Orientation 185
Boileau, F., Geffroy, G., Paulin, R.: Vacancy Migration Energy in Quenched Al–$Mg_{0.01}$ Alloy by Positron Annihilation . 107
Bont, R. de, see Kivits, P., et al. 101
Cancellieri, G.: Mode Coupling in Graded-Index Optical Fibres Due to Microbending 51
Chakravarti, A.N., Ghatak, K.P., Dhar, A., Ghosh, K.K., Ghosh, S.: Effect of Site Quantization on the Einstein Relation in Ultrathin Films of Non-Parabolic Semiconductors 165
Cojocaru, E., Comaniciu, N., Mihailescu, I.N., Nanu, L., Nistor, L.C., Teodorescu, V.: Free-Running Ruby Laser Annealing of Boron Implanted Silicon 243
Comaniciu, N., see Cojocaru, E., et al. 243
Dannefaer, S.: On the Effect of Backscattering of γ Quanta and Statistics in Positron-Annihilation Lifetime Measurements 255
Deb Roy, M., Nag, B.R.: Auto-Correlation of Velocity-Fluctuations and Frequency-Dependent Diffusion Constant for Hot Electrons. 131
Deriu, A., see Albanese, G., et al. 45
Dhar, A., see Chakravarti, A.N., et al. 165
Eltawansi, A., see Fayek, M.K., et al. 175
Engelhardt, L., see Wettling, W., et al. 19
Fang, J.C., see Liang, P.H., et al. 39
Fayek, M.K., Bahgat, A.A., Eltawansi, A.: The Electronic Behaviour of Irion in $U(Fe_xAl_{1-x})_2$ 175
Foxon, C.T., see Whitehouse, S.B., et al. 27
Friberg, A., Holwech, I., Nost, B.: Experiments on the Formation of Low Resistance In-Contacts on Al-Doped ZnSe. . 239
Fujita, T., see Takahashi, T., et al. 179
Geffroy, G., see Boileau, F., et al. 107
Gerber, P.R.: Measurement of the Rotational Viscosity of Nematic Liquid Crystals 139
Ghatak, K.P., see Chakravarti, A.N., et al. 165
Ghezzi, C.: Space-Charge Analysis for the Admittance of Semiconductor Junctions with Deep Impurity Levels . . . 191
Ghosh, K.K., see Chakravarti, A.N., et al. 165
Ghosh, S., see Chakravarti, A.N., et al. 165
Häfele, G., see Richter, W., et al. 115
Haneman, D., see Mendz, G. 87
Hansen, H.E., Petersen, K., Topolsky, J.: Positron Annihilation in Ge–S Glasses. 35
Hirabayashi, K., see Itoh, Y., et al. 227
Hirai, T., see Takahashi, T., et al. 179
Holwech, I., see Friberg, A., et al. 239
Ichikawa, M., see Takahashi, T., et al. 179
Itoh, Y., Katoh, K., Hirabayashi, K., Murase, K.: The Relation Between Lattice-Parameter and Particle Size in ZnS : Cu Phosphor 227
Jantz, W., see Wettling, W., et al. 19
Jiang, D.S., see Liang, P.H., et al. 39
Joyce, B.A., see Whitehouse, S.B., et al. 27
Katoh, K., see Itoh, Y., et al. 227
Kitagawa, M., Saraie, J., Tanaka, T.: Injection Electroluminescence from CdTe p–n Junctions Prepared by LPE 151
Kivits, P., Bont, R. de, Veen, J. van der: Vanadyl Phthalocyanine: An Organic Material for Optical Data Recording 101
Koster, A., Laval, S.: Dispersion Curves for Phonon-Polaritons Associated with an Overdamped Vibration Mode . . 231
Labib, H.H.A., see Abou El Ela, A.H., et al. 171
Labib, H.H.A., see Abou El Ela, A.H., et al. 203
Laval, S., see Koster, A. 231
LeComber, P.G., see Snell, A.J., et al. 83
Ley, L., see Liang, P.H., et al. 39
Liang, P.H., Fang, C.J., Jiang, D.S., Wagner, P., Ley, L.: Ultrashort Laser-Pulse Annealing of Hydrogenated Amorphous Silicon 39
Lucchini, E., see Albanese, G., et al. 45
Mackenzie, K., see Snell, A.J., et al. 83
Manninen, M., Nieminen, R.M.: Positron Detrapping from Defects: A Thermodynamic Approach 93
Mashev, L., Tonchev, S.: Formation of Holographic Diffraction Gratings in Photoresist. 143
McCorkle, R.A.: The High-Power Sliding-Spark Capillary Discharge in Vacuum: Variations and Applications . . . 261
Mendz, G., Haneman, D.: Electrically Active Paramagnetic Centres at Si–SiO_2 Interfaces 87
Mihailescu, N., see Cojocaru, E., et al. 243
Milton, G.W.: Concerning Bounds on the Transport and Mechanical Properties of Multicomponent Composite Materials. 125
Murase, K., see Itoh, Y., et al. 227
Nag, B.R., see Deb Roy, M. 131
Nanu, L., see Cojocaru, E., et al. 243
Nieminen, R.M., see Manninen, M. 93
Nistor, L.C., see Cojocaru, E., et al. 243
Nost, B., see Friberg, A., et al. 239
Orta, R., see Bava, G.P. 185

Pascher, H., see Richter, W., et al. 115
Paulin, R., see Boileau, F., et al. 107
Petersen, K., see Hansen, H.E., et al. 35
Regulla, D.F., see Schneckenburger, H., et al. 23
Richter, W., Pascher, H., Häfele, H.G.: Measurement of Spin-Flip Raman Gain, Effective *g*-Value and Absorption of Radiation Under Transient Electric Field Conditions in InSb. 115
Saraie, J., see Kitagawa, M., et al. 151
Schattschneider, P., see Semerad, E., et al. 247
Schneckenburger, H., Regulla, D.F., Unsöld, E.: Time-Resolved Investigations of Radiophotoluminescence in Metaphosphate Glass Dosimeters 23
Semerad, E., Wagendristel, A., Schattschneider, P., Bangert, H.: Diffraction Profiles of Thin Film Diffusion Couples . . . 247
Sharaf, K.A., see Abou El Ela, A.H., et al. 203
Shih-Lin Chang: Direct Experimental Method for the Determination of X-Ray Reflection Phases 221
Slokar, G., see Albanese, G., et al. 45
Snell, A.J., Spear, W.E., LeComber, P.G., Mackenzie, K.: Application of Amorphous Silicon Field Effect Transistors in Integrated Circuits 83
Spear, W.E., see Snell, A.J., et al. 83
Takahashi, T., Ichikawa, M., Fujita, T., Hirai, T.: Thermal Annealing and Light Irradiation Effects on Hole and Electron Drift Mobilities of $Se_{93.5}As_{6.5}$ and $Se_{94.3}Ge_{5.7}$ Films 179
Tanaka, T., see Kitagawa, M., et al. 151
Tenhover, M.: Properties of Yttrium-Iron-Metalloid Glasses . 59
Teodorescu, V., see Cojocaru, E., et al. 243
Tonchev, S., see Mashev, L. 143
Topolsky, J., see Hansen, H.E., et al. 35
Unsöld, E., see Schneckenburger, H., et al. 23
Veen, J. van der, see Kivits, P., et al. 101
Wagendristel, A., see Semerad, E., et al. 247
Wagner, P., see Liang, P.H., et al. 39
Welzenis, R.G. van: Thresholds for Impact Ionisation in InSb at 77 K 157
Wettling, W., Jantz, W., Engelhardt, L.: Photoacoustic Detection of Ferro- and Paramagnetic Resonance. 19
Whitehouse, S.B., Foxon, C.T., Joyce, B.A.: Thermal Desorption Spectroscopy of Condensed Lead Films on {100} GaAs Surfaces 27

Indexed in Current Contents